| Notice of Allowability | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/710,724 | KANG ET AL. | |
| | Examiner | Art Unit | |
| | Russell M. Kobert | 2829 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--*

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *the Application filed 30 July 2004*.

2. ☒ The allowed claim(s) is/are *1-42*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   **Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

***Reasons For Allowance***

1. The following is an examiner's statement of reasons for allowance:

A method for monitoring stress-induced degradation of an insulation layer of a substrate having first and second conductive layers (or in the alternative, of an inter layer dielectric disposed between an upper layer interconnection line and lower layer interconnection line) comprising the steps of applying a first voltage to the first conductive layer (or upper layer interconnection line), the first voltage being a swing time dependent DC ramping voltage then measuring a first leakage current flowing through the first conductive layer (or upper layer interconnection line) to calculate a first proportional value followed by applying a second voltage to the first conductive layer (or upper layer interconnection line), the second voltage being a swing time dependent DC ramping voltage then measuring a second leakage current flowing through the first conductive layer (or upper layer interconnection line) to calculate a second proportional value further followed by the step of calculating a first ratio of the second proportional value to the first proportional value as further described in claim 1 or in the alternative, claim 23, has not been found.

It is further noted that the examiner's reasons are understood to be predicated upon consideration of each of the claims as a whole, and not upon any specific elements of the claims.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

2. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Chakravarti et al (U.S. Patent 4542340), Okada (U.S. Patent 6326792), Satoh et al (Stress Induced Leakage Current of Tunnel Oxide Derived from Flash Memory Read-Disturb Characteristics, Proc. IEEE 1995 Int. Conference on Microelectronic Test Structures, Vol. 8, March 1995, pg. 97-101) and Tao et al (Fast wafer level monitoring of stress induced leakage current in deep sub-micron embedded non-volatile memory processes, 2002 IRW Final Report, 2002 IEEE, pg. 76-78) show methods for characterizing leakage current integrity of a substrate having first and second conductive layers such as non-volatile memory devices.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Russell Kobert whose telephone number is (571) 272-1963.

The Examiner's Supervisor, Nestor R. Ramirez, can be reached at (571) 272-2034.

For an automated menu of Tech Center 2800 phone numbers call (571) 272-2800.

Russell M. Kobert
Patent Examiner
Group Art Unit 2829
November 23, 2005

VINH NGUYEN
PRIMARY EXAMINER
A.U. 2829
11/28/05